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Preface

"Sometimes we can be shown a way of seeing that makes us feel more favorably disposed to something that had been distasteful of frightening. But we can also be alerted to menacing implications of something that we had previously thought harmless or frivolously amusing. Cloning provides a case study in the power of scientific thinking to change our minds in both directions."[1]*—Richard Dawkins*

What might be the psychological and social consequences of cloning people? Curious to see how experts on the ethics of cloning were considering this question, I took a day off from my psychiatric practice to attend a session devoted to the ethics of cloning at the 1998 annual meeting of the American Association of Advancement of Science.[2] There, I found leaders in biology, biomedical ethics, theology, and the law alluding to possible psychological and social consequences of human cloning in their discussion of its ethics. While their concerns seemed legitimate, they did not appear to be grounded in psychological theory, research, or clinical experience that might be relevant by analogy to aspects of cloning.

At the conference, I was fortunate to be sitting next to Farida Shamali. After sharing some of my views with her, she invited me to write something for a conference in the United Arab Emirates. Not quite believing that considerable efforts to try to understand cloning from a psychological and social perspective hadn't already been made, I called Ruth Macklin. She'd been my favorite professor in college, and is a renowned bioethicist. Ruth agreed that the voices in the cloning debate had been pretty

much been confined to individuals in biology, biomedical ethics, theology, the law, and politics. She also pointed out that the then recently completed National Bioethics Advisory Report[3] on human cloning did not reflect ideas and opinions from psychology and social science. Since that conversation, the Presidents Commission on Bioethics issued their report in 2002, and while it does consider possible psychological and social consequences of cloning, it does not much tap into relevant theory and research.[4]

Ruth then asked the obvious question: "What do you want to say?" I honestly replied that while I had misgivings about cloning, I did not yet know, but that I hoped to systematically analyze the issue. She wished me luck, and I began the project, which eventually evolved into this book.

"Nothing that is human is alien to me."[5] [6] This sentiment of the ancient philosopher Terence became the light of open mindedness, helping to illuminate my way through this topic. With cloning such a controversial topic, I felt this was the only way to speak to everyone and have a chance of being heard.

In the beginning, staying open-minded was relatively easy, but, as the book progressed, it sometimes became a challenge. In addition to trying to remain scientifically dispassionate, I was guided by Terrence's attitude on many occasions. It helped me to take a variety of perspectives on cloning, and I sincerely hope it is reflected throughout the book.

But I should tell you that there is an issue related to reproductive cloning about which I have some strong biases. I favor embryonic stem cell research, which utilizes cloning not to produce a baby, but to provide tissues for medical research. That research

could lead to treatments with the potential to cure previously incurable diseases, and some people I love dearly could benefit.

Because some might perceive my personal investment in stem cell research as interfering with my objectivity, I did not want to deal with it in this book. Specifically, I did not want to try to counter the claim made by many people opposed to abortion -- that all cloning is reproductive cloning.[7] Not wanting to risk alienating readers with strong views on either side of the abortion and reproductive rights debate, I didn't want to have to explain why we ought to separate the cloning of stem cell research from cloning for reproduction. But, by the final chapter, on ethics and policy, the evolving logic of the book compelled me, most reluctantly, to confront that issue.

In this book, we'll try to draw logical inferences from psychological and social theory and research that seem relevant by analogy to key dimensions of cloning. If you wish, challenge my conclusions, and if you find the analogies unconvincing or feel they are misapplied, then pinpoint where and how. And if you feel that reasoning by analogy is itself is a mistake, consider that while there might be a human clone or two by the time this book is published, we have nothing else to serve as a basis for serious and systematic examination of the topic. There is already more than enough dogma, ungrounded speculation, and overheated rhetoric.

Jargon pervades psychiatry, psychology, and the social sciences, as it does any specialized field, but insider shorthand can make what ought to be clear ideas, esoteric and opaque to everyone on the outside. But insiders, too, may befuddle themselves with their own private language. Being able to use jargon doesn't mean you know what you're talking about. This haze must be avoided, and so I've tried to define technical

terms in ordinary language, and concretely illustrate the abstract discussion. Making research findings accessible and illustrating points with clinical examples vivify and humanize this project.

Assisting me in the writing of this book were groups of imagined readers. I've tried to speak to each in a way that all may understand:

First, and foremost, is the general public, people without advanced education in any area this book touches upon, but no less able to reason than an expert, if things are laid out clearly. I hope this book facilitates wider participation in the ethical debate on cloning, and helps move that debate beyond the "fairly predictable lines"[8] it has followed until now.

Mental health professionals will find much that is familiar here, but applied to a most unfamiliar domain. Clinical practice of psychiatry and psychology in the 21st century may well encounter clones and cloning, and this book, in part, is an attempt to prepare for that eventuality. In addition, perhaps the very attempt to apply clinical theory to cloning may have some unforeseen general implications for those concepts and theories. By the same token, perhaps researchers in psychology and the social sciences, in finding their research applied to cloning, may have insights that never would have occurred to me.

Reproductive scientists and physicians will make cloning people a reality; if it hasn't already become one by the time this book appears. I've tried to be sensitive to their motivations to help the infertile, and I hope this volume will help to deepen their understanding and broaden their perspective on reproductive human cloning.

Advocates of, and personal aspirants for, human cloning have been much maligned and misunderstood. Figuring prominently among them, the infertile couple, gay and lesbian people desiring parenthood, the grieving parent, and even the narcissistic individual all deserve a compassionate hearing. I've tried to imagine some of their possible motivations, both conscious and unconscious. Whether or not they proceed with cloning, this book will have succeeded if it invites them to introspect about their own unique motives, and helps them to empathize with the many others who may be directly or indirectly affected by their decision.

I've also written this book for a group people who, as far as we know, do not yet exist – individuals cloned from an already or previously existing person. I hope that should they come to be, this book will prove useful to them.

Some notes on language

For brevity's sake, when I use the word "cloning" without elaboration, I mean reproductive cloning by somatic cell nuclear transfer.

I will not try to achieve gender neutrality or equality in pronoun usage. Some things we'll be examining are very gender-specific, and many are not. The context will make it clear when the gender of the pronoun is not changeable.

A General note on Notes

Certain edited references are used repeatedly in several chapters. Rather than list the citation in full each time, those most frequently cited are listed below. These are designated in the Notes simply by the editor's name(s), date, chapter, and pages.

McGee, G (Ed). (1998). The Human Cloning Debate. Berkeley, CA: Berkeley Hills Books.

Moore, BE, and Fine, BD (1990). Psychoanalytic Terms and Concepts. New Haven: Yale Univ. Press.

Nussbaum, MC, and Sunstein, CR (Eds). (1998). Clones and Clones: Facts and Fantasies about Human Cloning, New York: WW Norton.

Stotland, NL (Ed). (1990). Psychiatric Aspects of Reproductive Technology, Washington, DC: American Psychiatric Press

Strachey, J (Ed) (1974). The Standard Edition of the Complete Psychological Works of Sigmund Freud, London: Hogarth Press. This reference is conventionally abbreviated "**SE**," and will be here, too.

I will also use conventional abbreviations for two other sources:

National Bioethics Advisory Commission (1997). Cloning Human Beings: Report and Recommendations of the National Bioethics Advisory Commission. Rockville, MD, will be abbreviated "**NBAC report. (1997)**."

The Presidents Council on Bioethics (2002). Human Cloning and Human Dignity: An ethical inquiry. Rockville, MD will be abbreviated "**PCBE report. (2002).**"

Notes – Preface

[1] Dawkins, R (1998). What's wrong with cloning? In Nussbaum, MC, and Sunstein, CR (Eds). pp. 54-66.

[2] The Rights and Wrongs of Human Cloning (session). (3/1998). Philadelphia: American Association for the Advancement of Science annual meeting.

[3] NBAC report. (1997).

[4] PCBE Report. (2002).

[5] "Homo sum; humani nihil a me alienum puto."

[6] The late Stanley W. Jackson, psychoanalyst, historian, and wise teacher and supervisor at Yale taught this attitude as core to the stance of the psychotherapist.

[7] Bottum, J (5/7/2001). Against human cloning (editorial). The Weekly Standard, pp. 9-10.

[8] McGee, G (2000). Cloning and new kinds of families, The Journal of Sex Research, 37: 266-272.

Introduction

If by the time this book is published, a human clone hasn't been born, one inevitably will be. After all, some people are personally motivated to be parents of a clone, and some scientists and clinicians with the knowledge and skills to reproductively clone humans have announced their intentions to try to do so.[1] [2]

Most scientists and fertility experts who might be able to attempt to clone a human being have been deterred by the low survival rate of implanted animal embryo clones, and the high degree of medical risk run by those successfully implanted.[3] But what if cloning techniques improved sufficiently so that those risks were no longer major, or could be reduced to that now associated with currently practiced forms of medically assisted sexual reproduction? Would cloning people then become ethically acceptable, and permissible, with or without restriction? In pondering those ethical and policy questions, we need to ask whether cloning might carry other risks, in particular, psychological and social ones.

We need not wait for cloning techniques to be sufficiently perfected to try to anticipate possible psychological and social consequences. The first people to consider the possibility of psychological and social harm from cloning did so from ethical and legal perspectives.[4] [5] It is primarily from those perspectives that such questions continue to be framed,[6] [7]with some input from pioneers in the biology of cloning, whose understandable focus is that of medical risk.[8]

Why have only a few people in the field thought that the psychological and social sciences might be able to contribute to cloning ethics and policy?[9] [10] Undoubtedly, there has been a reluctance to pose and try to answer questions, given that research directly

bearing on the subject is impossible. Without cloned people to study, wouldn't any attempt to apply psychological and social sciences to cloning be speculative? Certainly, but there is a difference between correctly derided "nebulous speculation"[11] and systematic and thoughtful attempts at anticipation. Hopefully, this book falls into the latter category, and will further the kind of "informed foresight"[12] Nobel Prize winning biologist Joshua Lederberg believes can guide ethical judgement and social policy on human cloning.

In 1938, Hans Spemann conceived his "gedanken," or thought experiment, that became the basis for asexual reproduction or cloning by transferring the nucleus from adult somatic cells into an egg whose nucleus had been removed. What now goes by the name "somatic cell nuclear transfer" seemed "fantastical," even to him.[13] This book is my thought experiment on the possible psychological and social consequences of the likely realization in humans of Spemann's "gedanken." I hope that my approach makes my conjectures seem less fantastical than they might otherwise.

A few years before Spemann's thought experiment, the psychiatrist, Paul Schilder mused about biological phenomena as analogues to psychoanalytic concepts.[14] One phenomenon he examined were asexual forms of reproduction found in primitive organisms. As far as I can tell, this was the first attempt to apply psychology to thinking about asexual reproduction, if only as a metaphor. Now, with cloning of people soon a reproductive option, and a new reality of the human condition, we need to move beyond metaphor.

Science both grounds and transcends metaphor with models. While a metaphor suggests comparison between one concept and another, a scientific model seeks to

represent aspects of one phenomenon or concept by another that is better understood. With the right model, scientists can make specific predictions about a phenomenon that is not well understood, but they may find that certain aspects of that phenomenon might be better represented by another model.[15] That is exactly what we will find here with our models of clones and cloning.

We'll systematically analyze possible psychological and social consequences of human reproductive cloning through eight models of situations relevant by analogy to it. After noting biological, psychological and social[16] conceptual parallels and differences of each model with cloning, we'll marshal theory and data relevant to each model, and with appropriate caveats, apply them to cloning. As a result, we'll see what psychological and social science theory and data imply for clones and cloning.

I want to emphasize that the psychological and social issues likely to be faced by clones and those involved with their upbringing are not unique to them. Cloning simply presents these issues to us in an unfamiliar, but by no means alien context. Indeed, we can all reflect on aspects of our personal history and experience that may help us to empathically understand clones and cloning. The conceptual models and the scientific and clinical theory and data presented here are nothing more than tools to inform and thereby enhance our natural abilities as people to try to understand other people and ourselves.

Trying to understand cloning doesn't necessarily mean condoning it, but if we prejudge it, we will hamper our ability to understand it. Because we best understand human phenomena when we try to do so from a range of perspectives, this will also be our approach before coming to ethical conclusions and policy recommendations.

In the interest of avoiding lengthy preliminaries to orient the reader, Chapter 1: the Identical Twin model also functions as an extended introduction. One way it does this is by presenting a number of fundamental psychological concepts that we'll also need at various other points in the book.

Another introductory feature of the first chapter arises from the fact that identical twins themselves are themselves clones, though of a different kind than we wish to understand here. Understanding how a clone by somatic cell nuclear transfer may differ psychologically and socially from a naturally occurring identical twin requires us to digest a minimal account of the biology of cloning.

Yet another key introductory aspect of Chapter 1 arises from its demonstrating the need to supplement the Identical Twin model with other models. The models presented subsequently are relevant by analogy to human reproductive cloning in some crucial ways identical twins are not.

In examining each model, we'll not only try to understand the clone, but also the progenitor (the person who was cloned) and both of the clone's rearing parents (only one of whom may be the progenitor). In doing so, we'll also focus on a variety of possible origins of the wish to clone, as well as attend to the clone's larger family, and his social and cultural worlds. Most of our focus will be on the clone's individual psychological and interpersonal development throughout his life, but especially in his formative early years. In each model, we'll examine salient psychological, interpersonal and social issues from the perspectives that would appear to be most relevant to cloning. In doing so, we'll look for parallels and differences between the model and cloning.

Psychotherapy case material helps to illustrate the models, with several of the cases illustrating more than one model. Cases are drawn primarily from published clinical psychiatric literature (primarily psychoanalytic), and from my own clinical practice. Though some individuals might believe they recognize themselves in these examples, I have disguised details that might have made them identifiable to others, and in some instances created composites of several actual cases to assure confidentiality.

No single model fully reflects all the psychological and social aspects of cloning. That's why we'll look at eight. Some illuminate certain dimensions, issues, and perspectives better than others, and they also vary in both how and the degree to which they are relevant to cloning. After examining each model, we'll note where they converge and complement one another, and integrate them into a composite.

We'll then focus specifically on issues of intimacy, sex, and sexuality, and in the process, a ninth model will emerge. In the penultimate chapter, we'll consider even wider social consequences, and in the final one, ethics and policy recommendations.

While it is important to be fair in our assessments, we needn't strive for perfect balance. From both medical and social policy perspectives, we must examine any new allegedly beneficial practice for what harm it might cause. As he tries to heal, every physician is obligated by the Hippocratic Oath to try even harder, to do no harm. And so, we will focus much more on possible risks rather than on conceivable benefits of reproductive cloning.

Utilizing the methods I've outlined, let's begin where I started – uncertain of what we might conclude. Trusting in a systematic process of free inquiry, we may expect some surprises in the process.

Notes – Introduction

[1] Alexander, B (2/2001). You again, Wired. pp. 120-135.

[2] Pickrell, J (2000). Experts assail plan to help childless couple (news). Science 291: 2061-2063.

[3] National Academy of Sciences (2003). Scientific and Medical Aspects of Human Reproductive Cloning, Washington D.C.: National Academy Press. pp. 41-42, Table 1 – pp. 114-123, and Table 2 – pp. 124-135.

[4] Feinberg, J (1980). The child's right to an open future. In Aiken, W. and LaFollette, H (Eds). Whose Child? Children's Rights, Parental Authority, and State Power, Towata, NJ: Rowan and Littlefield.

[5] Pizzuli, FC (1975). Asexual reproduction and genetic engineering: A constitutional assessment of the technology of cloning. The Southern California Law Review 47: 476-584.

[6] See for example, Pence, GE (1997). Who's afraid of human cloning? Lanham, MD: Rowman and Littlefield. Robertson, J. (1997).

[7] Robertson, J. (1997). Cloning as a reproductive right, In McGee, G (Ed).

[8] Jaenisch, R and Wilmut, J, (2001). Don't clone humans, Science 291: 2552.

[9] The notable exceptions are Nancy Segal, an experimental psychologist and authority on twins, and Adam Phillips, a child psychoanalyst.

[10] No section of the NBAC report of 1997 addressed possible psychological and social consequences of cloning, and the PCBE report in 2002 had only a small one.

[11] Pence, GE (1997). Who's afraid of Human Cloning? Lanham, MD: Rowman and Littlefield, pp. 135.

[12] Lederberg, J (1966). Experimental Genetics and Human Evolution. Bulletin of the Atomic Scientists 22: 4-11.

[13] Spemann, H (1938). Embryonic Development and Induction, New York: Hafner (reprinted from the Yale Univ. Press edition).

[14] Schilder, P (1933). Psyhoanalyse und Biologie. Imago 19: 168-197.

[15] Classic examples of models in modern physics, illustrating this are the particle and wave theories of light. The diffraction of light is best explained by modeling it as a wave, while modeling light as a particle best explains its energy transmitting properties. Physics, as "Queen of the sciences" lends itself best to building models that can be tested, and proven to be true or false. Compared to the "hard" science of physics, psychology and the social sciences are "soft." We'll try to make up for this by employing multiple models. We can have the most confidence in those predictions that converge and complement one another.

[16] This is in the spirit of the unifying "bio-psychosocial" diagnostic schema in contemporary psychiatry incorporated into the contemporary guide for psychiatric diagnosis, the Diagnostic and Statistical Manual IV-TR (2000). Washington, DC: American Psychiatric Press.